

AMENDMENTS TO THE CLAIMS:

Please cancel claims 95-106, without prejudice, and amend claims 34, 36-39, 41-44 and 89-94, as shown below.

This listing of claims will replace all prior versions and listings of claims in the Application:

Claim 1 (original): An organic insulating film formed using, as a source, a polyorganosilane whose C/Si ratio is at least equal to or greater than 5 and, at the same time, molecular weight is equal to or greater than 100.

Claim 2 (original): An organic insulating film according to Claim 1, wherein said polyorganosilane is one or more types of polyorganosilanes selected from the group consisting of trimethylvinylsilane, triethylvinylsilane, dimethyldivinylsilane, diethyldivinylsilane, methyltrivinylsilane, ethyltrivinylsilane, tetravinylsilane, tetraethylsilane and triethylsilane.

Claim 3 (original): An organic insulating film according to Claim 1, wherein said polyorganosilane contains a vinyl group, at least, in a part thereof.

Claim 4 (original): An organic insulating film according to Claim 3, wherein said polyorganosilane containing a vinyl group, at least, in a part thereof is one or more types of polyorganosilanes selected from the group consisting of trimethylvinylsilane, triethylvinylsilane, dimethyldivinylsilane, diethyldivinylsilane, methyltrivinylsilane, ethyltrivinylsilane and tetravinylsilane.

Claim 5 (original): An organic insulating film according to Claim 1, wherein a C=C bond is contained.

Claim 6 (original): An organic insulating film according to Claim 5, wherein a vinyl group is contained.

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Claim 7 (previously presented): An organic insulating film according to Claim 1, wherein said organic insulating film is one selected from the group consisting of a SiCH film, a SiCHN film and a SiOCH film.

Claim 8 (original): An organic insulating film according to Claim 7, wherein said SiCH film is composed of Si, C and H elements and a C/Si composition ratio thereof is not less than 0.9.

Claim 9 (original): An organic insulating film according to Claim 8, wherein said SiCH film has a density of less than 1.4 g / cm³.

Claim 10 (original): An organic insulating film according to Claim 7, wherein said SiCHN film is composed of Si, C, H and N elements and a C/Si composition ratio thereof is not less than 1.0.

Claim 11 (original): An organic insulating film according to Claim 10, wherein said SiCHN film has a density of less than 1.6 g / cm³.

Claim 12 (original): An organic insulating film according to Claim 7, wherein said SiOCH film is composed of, at least, Si, C, O and H elements and a C/Si composition ratio thereof is not less than 0.8.

Claim 13 (original): An organic insulating film according to Claim 12, wherein said SiOCH film has a density of less than 1.2 g / cm³.

Claims 14-31 (canceled)

Claim 32 (original): A semiconductor device comprising, at least, one insulating film selected from the group consisting of an interlayer insulating film, an etching stopper film and a barrier insulating film against a metal; wherein

said interlayer insulating film, etching stopper film or barrier insulating film against a metal is an organic insulating film; wherein

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said organic insulating film formed using, as a source, a polyorganosilane whose C/Si ratio is at least equal to or greater than 5 and, at the same time, molecular weight is equal to or greater than 100.

Claim 33 (original): A semiconductor device according to Claim 32, which comprises a trench interconnection structure.

Claim 34 (currently amended): A semiconductor device having a trench interconnection structure, which comprises a first insulating film formed on a semiconductor substrate, a first trench interconnection formed in said first insulating film, a second insulating film, a third insulating film, a second trench interconnection formed in said third insulating film, a via plug that is formed in said second insulating film and connects said first trench interconnection with said second trench interconnection; wherein

at least said first insulating film, said second insulating film and said third insulating film are each made of a SiCH film, a SiCHN film and a SiOCH film as set forth in Claim 7.

Claim 35 (original): A semiconductor device according to Claim 34, wherein said first insulating film is a layered film made of said SiOCH film and a hard mask film.

Claim 36 (currently amended): A semiconductor device according to Claim 34; wherein said first insulating film is a layered film made of an etching stopper film, said SiOCH film and a hard mask film; and

 said etching stopper film is either [[of]] a SiCH film [[and]] or a SiCHN film as set forth in Claim 7.

Claim 37 (currently amended): A semiconductor device according to Claim 34; wherein said second insulating film is a layered film made of a barrier insulating film, a SiOCH film as set forth in Claim 7 and a hard mask film; and

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said barrier insulating film is either [[of]] a SiCH film [[and]] or a SiCHN film as set forth in Claim 7.

Claim 38 (currently amended): A semiconductor device according to Claim 34; wherein said second insulating film is a layered film made of a barrier insulating film and said SiOCH film; and

said barrier insulating film is either [[of]] a SiCH film [[and]] or a SiCHN film as set forth in Claim 7.

Claim 39 (currently amended): A semiconductor device according to Claim 34; wherein said second insulating film is a layered film made of a barrier insulating film, said SiOCH film and an etching stopper film; and

each of said barrier insulating film and said etching stopper film is either [[of]] a SiCH film [[and]] or a SiCHN film as set forth in Claim 7.

Claim 40 (original): A semiconductor device according to Claim 34, wherein said third insulating film is a layered film made of said SiOCH film and a hard mask film.

Claim 41 (currently amended): A semiconductor device according to Claim 34; wherein said third insulating film is a layered film made of an etching stopper film, said SiOCH film and a hard mask film; and

said etching stopper film is either [[of]] a SiCH film [[and]] or a SiCHN film as set forth in Claim 7.

Claim 42 (currently amended): A semiconductor device according to Claim 34; wherein a top section of said second trench interconnection is covered with a barrier insulating film; and

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said barrier insulating film is either of a SiCH film and a SiCHN film ~~as set forth in~~
Claim 7.

Claim 43 (currently amended): A semiconductor device according to Claim 36, wherein said etching stopper film is a layered film made of a SiCH film and a SiCHN film ~~as set forth in~~
Claim 7.

Claim 44 (currently amended): A semiconductor device according to Claim 37, wherein said barrier insulating film is a layered film made of a SiCH film and a SiCHN film ~~as set forth in~~
Claim 7.

Claim 45 (original): A semiconductor device according to Claim 34, wherein, at least, one of said trench interconnection and said via plug is formed of a copper containing metal.

Claim 46 (original): A semiconductor device according to Claim 45, wherein said copper containing metal further contains one or more metals selected from the group consisting of Si, Al, Ag, W, Mg, Be, Zn, Pd, Cd, Au, Hg, Pt, Zr, Ti, Sn, Ni and Fe.

Claim 47 (original): A semiconductor device according to Claim 34, wherein said trench interconnection and said via plug each comprise one or more barrier metal layers selected from the group consisting of layers of Ti, TiN, TiSiN, Ta, TaN and TaSiN.

Claim 48-88 (canceled)

Claim 89 (currently amended): A semiconductor device according to Claim 36, wherein said etching stopper film is a layered film made of a SiCH film and a SiCHN film ~~as set forth in~~
Claim 7.

Claim 90 (currently amended): A semiconductor device according to Claim 39, wherein said etching stopper film is a layered film made of a SiCH film and a SiCHN film ~~as set forth in~~
Claim 7.

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Claim 91 (currently amended): A semiconductor device according to Claim 41, wherein said etching stopper film is a layered film made of a SiCH film and a SiCHN film ~~as set forth in~~ ~~Claim 7.~~

Claim 92 (currently amended): A semiconductor device according to Claim 38, wherein said barrier insulating film is a layered film made of a SiCH film and a SiCHN film ~~as set forth in~~ ~~Claim 7.~~

Claim 93 (currently amended): A semiconductor device according to Claim 39, wherein said barrier insulating film is a layered film made of a SiCH film and a SiCHN film ~~as set forth in~~ ~~Claim 7.~~

Claim 94 (currently amended): A semiconductor device according to Claim 42, wherein said barrier insulating film is a layered film made of a SiCH film and a SiCHN film ~~as set forth in~~ ~~Claim 7.~~

Claims 95 - 106 (canceled)

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